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APPLICATION OF THE SECTOR APPROACH
TO THE FIELD OF ELECTRIC POWER

1. The Thesis

The thesis of "materially restrict or retard" vis-a-vis established Soviet production plans completely fails to recognize elemental conditions upon which these plans are based. Soviet plans are drawn on the basis of a system of material balances which consist of Soviet domestic production, existing Soviet inventories and planned Soviet imports. In no production activity to the knowledge of scholars acquainted with the Soviet economy do the Soviets plan a level of imports of material of a magnitude that failure to secure said imports would result in a significant underfulfillment of the plan. Thus, the very criteria upon which the sector concept rests is a condition which must be removed by accepted and implemented planning rules. Even accepting the sector concept as devils advocate, the range of substitution available to a modern industrial economy, particularly one with large material stocks, would reduce the impact of planning error to at most a limited restriction. The USSR with its established residual character of consumption probably enjoys more latitude of substitution than any other planned economy in the modern world. Multilateral import controls through COCOM may prohibit a slightly more rapid advance in Soviet Bloc production of electric energy than planned and may be expected, if changed suddenly, to exercise only a limited constraint upon the achievement of plan goals.

2. The Problem

Detailed bills of commodities for electrical generating stations may be drawn up for selected nations in the Bloc including the USSR. However, neither

Bloc production announcements nor East-West trade statistics contain sufficient detail to isolate either domestic production of the individual commodities by nation within the Bloc, Bloc imports of these commodities, or Bloc requirements of these commodities. Thus there is at present no commodity information per se available with which to test the "sector approach" as it is presented in a critical commodity list. It is possible to hypothesize whatever list of commodities one may choose, but it is not possible to verify the nexus of domestic production vs. imports vs. requirements on an individual commodity basis which is implied in the sector approach.

3. An Alternative Solution

Certain broad and general aggregative numbers exist through which a general test of the sector approach in electric power may be devised. The data available subsume the specific commodities in the electric power sector but do provide a means for a test of the sector. See Table I.

TABLE I

ESTIMATED INCREMENTS TO ELECTRIC GENERATING CAPACITY AND ESTIMATED IMPORTS OF FREE WORLD ELECTRIC GENERATING EQUIPMENT FOR THE SOVIET BLOC 1951-1955

($000)

		1951	1952	1953	1954	1955	Ann. Avg.
1.	Electric generating & accessory equipment *	159,236	191,840	228,360	276,320	315,788	234,...
2.	Electric machinery apparatus and appliances *	36,020	26,950	26,030	23,160	NA	28,...
3.	Col 2 / Col 1	22.6	14.0	11.4	8.4	NA	...

* Does not include boiler equipment.

Data in row 2 of Table I have been arbitrarily deflated to eliminate electric utilization equipment. The deflation was based on the maximum probable shipments of generating equipment in any single year and provides, if anything, a distinct overstatement of Bloc reliance upon imports of electric generating equipment. Although dependance of Bloc generating capacity upon free world exports may have been considerable in the early part of subject period, Bloc imports of this equipment have declined annually and Bloc production of new generating capacity increased annually. Data in row 1 (Table I) were converted from increases in electrical generating capacity of the Bloc by pricing increases in capacity by an average expenditure for electrical generating equipment and accessories per unit increase in kilowatt capacity. Thus, an attempt has been made to compare wholly comparable units of expenditure and equipment. Boiler equipment which constitutes both the largest equipment expenditure item and the smallest item of Bloc import could not be compared for lack of any even arbitrary adjustment which could be made in steel imports.

4. A Gross Solution

Another, but more gross solution is possible. Soviet production (lack of coterminus 5-year plans makes this comparison difficult for each Bloc country) of electric power may be compared to Soviet plans for power production during the plan period. Although additional export limitations were placed on Western export of power generating equipment at a time when Soviet power production plans must have been complete, Soviet production of electric power exceeded planned output. European Satellite power production plans, however, failed to meet plan goals although the margin of underfulfillment was uniformly rather small. See Table II.

TABLE II

PLANNED AND ACTUAL PRODUCTION OF ELECTRIC POWER BY SOVIET BLOC NATIONS WITH LONG TERM PLANS ENDING IN PERIOD 1951-55

	(000,000,000 Kilowatt Hours) Planned	Actual
Bulgaria (1953)	1.8	1.6
Czechoslovakia (1953)	12.7	12.5
East Germany (1955)	29.6	28.7
Hungary (1954)	5.1	4.8
Poland (1955)	19.3	17.7
Rumania (1955)	4.7	4.3
USSR (1955)	162.0	170.0
TOTAL	235.2	239.6

* Planned and actual annual production in terminal year of the plan.